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Yamaguchi

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(54) **LEAD FRAME, RESIN-MOLDED SEMICONDUCTOR DEVICE, AND METHOD FOR MANUFACTURING THE SAME**

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(57) **ABSTRACT**

A lead frame including signal-connecting leads, a die pad and support leads is provided. A semiconductor chip is bonded to the die pad with an adhesive. The semiconductor chip, electrode pads and the signal-connecting leads are electrically connected to each other with metal fine wires. And these members are encapsulated in a resin encapsulant. The back surface of the die pad is subjected to half etching or the like to form a convex portion and a flange portion surrounding the convex portion. Since a thin layer of the resin encapsulant exists under the flange portion, the resin encapsulant can hold the die pad more strongly and the moisture resistance of the device can be improved with the lower surface of the die pad protruding from the resin encapsulant. As a result, the characteristics of a resin-molded semiconductor device having a die pad exposed on the back surface of a resin encapsulant can be improved.

8 Claims, 15 Drawing Sheets